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UNITED STATES DEPARTMENT OF AGRICULTURE
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Respiratory Devices for Protection Against
Inhalation Hazards of Dust, Mists, and Low
Vapor Concentrations of Certain Insecticides

Information on respirators and gas-mask canisters for protection of operators from dusts, mists, and low vapor concentrations of aldrin, dieldrin, endrin, chlordane, EPN, parathion, nicotine, TEPP, and demeton was contained in a release dated June 27, 1955, issued by the Agricultural Research Service. On April 29, 1957, information was issued on a respirator and canisters giving similar protection against Phosdrin insecticide. Tests of these protective devices with a number of other insecticides have recently been completed and the present release incorporates this additional information with that previously issued.

The commercially available respirators and gas-mask canisters that have been tested and found to give adequate protection against dusts, mists, and low vapor concentrations of certain insecticides are listed below. Following that list is a table showing the particular insecticides against which each respirator or canister will give protection.

RESPIRATORS

1. Respirator No. 5055 equipped with R-55 filter and cartridge unit. Two units attached to facepiece. (American Optical Company, Safety Division, Southbridge, Massachusetts).
2. Healthguard Respirator style 95 equipped with Code B cartridge and filter 1000 or 1001. One unit attached to facepiece. (Chicago Eye Shield Company, 2300 Warren Boulevard, Chicago, Illinois).
3. DC 5100 Aluminum Body Respirator equipped with DMA cartridge and P-7 filter. Two units attached to facepiece. (Pulmosan Supply Equipment Corporation, 644 Pacific Street, Brooklyn 17, New York).
4. Agrisol Dust and Vapor Respirator equipped with R-414 filter and 11-A cartridge. Two units attached to facepiece. (Willson Products Division, Ray-O-Vac Company, Reading, Pennsylvania).

5. Respirator No. 5561 equipped with filter cartridge combination R-561. (American Optical Company, Safety Division, Southbridge, Massachusetts).
6. Farm Spray Respirator No. CR-72183 equipped with cartridge No. CR-49293 and filter No. 73488. (Mine Safety Appliances Company, Pittsburgh, Pennsylvania).
7. All Vision Chemical Cartridge Respirator No. CR-74910 equipped with inner cartridge No. CR-73841 and outer cartridge No. 73927. (Mine Safety Appliances Company, Pittsburgh, Pennsylvania).
8. Agritox Respirator equipped with cartridge NO. 11A (new type) and filter No. R490. (Willson Products Division, Ray-O-Vac Company, Reading, Pennsylvania).
9. American Optical Company respirator No. 5058, with filter-cartridge combination R-58. (American Optical Company, Safety Division, Southbridge, Massachusetts).

GAS MASK CANISTERS

10. Chin Style Canister No. 15-OVAG-F Insecticide Canister. (Acme Protection Equipment Company, 1201 Kalamazoo Street, South Haven, Michigan).
11. Canister GMC-1. (Mine Safety Appliances Company, Pittsburgh, Pennsylvania).
12. Canister G3FD. (Willson Products Division, Ray-O-Vac Company, Reading, Pennsylvania).
13. Universal type canister of any manufacturer. Type N, bearing Bureau of Mines approval.
14. Military Canister No. 10 (Army Type). (Acme Protection Equipment Company, 1201 Kalamazoo Street, South Haven, Michigan).
15. Canister No. H-3 equipped with facepiece filter holder and throw away filters No. R361 or R393. This unit can be obtained with either a full-face gas mask or a half-mask facepiece. The half-mask facepiece should not be used when mixing or handling insecticides in enclosed spaces or applying aerosols in greenhouses but is suitable for field use. (Willson Products Division, Ray-O-Vac Company, Reading, Pennsylvania).

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FIELD USE AND CARE OF RESPIRATORS

The use of respirators is advised for protection from dusts or mists during field handling of and open field exposure to the insecticides mentioned. Their use is not a substitute for essential precautions.

It is especially important that respirators be used in handling the insecticides during the loading of distribution equipment, when disposing of empty containers, and whenever operators are exposed to obvious amounts of dusts or mists. Field operators who may be exposed to small amounts of insecticide - even those not obviously detectable - continuously during the day or for succeeding days should faithfully use respirators as a precaution.

Respirators will give adequate protection to airplane pilots during normal dusting or spraying operations, but gas masks should be worn when exposed to high concentrations. Pilots should take care to select and wear goggles that give a tight seal with the respirator around the nose piece.

In the use of respirators the following practices are highly important:

- (1) Change filters twice a day, or oftener, should breathing become difficult.
- (2) Change cartridges after 8 hours of actual use, or oftener, if any odor of the insecticide is detected.
- (3) Remove filters and cartridges and wash facepiece with soap and warm water after use. After washing, rinse thoroughly to remove all traces of soap. Dry facepiece with clean cloth uncontaminated with insecticide. Place facepiece in a well ventilated area to dry.
- (4) Store respirator, filters and cartridges in a clean dry place - preferably in a tightly closed paper or plastic bag.

The respirator should be fitted properly on the face, not too high on the nose, with narrow portion over the bridge of the nose, and chin cup contacting under side of the chin. Headbands should be adjusted just tightly enough to insure a good seal. Manufacturers can supply special facepieces, if the standard one does not fit.

RESPIRATORS NOT ADVISED FOR CERTAIN USES

Respirators do not provide needed protection from inhalation of insecticide dust, mist, and vapors for use by:

- (1) Those formulating or mixing insecticides in closed or inadequately ventilated spaces.

(2) Those applying insecticides, including aerosols, in greenhouses.

Full-face gas masks equipped with tested canisters should be worn under these conditions. The gas mask is worn with proper protective clothing when applying insecticides in greenhouses or other enclosed spaces. When applying grain fumigants, recommendations of the fumigant manufacturer should be followed closely.

This release supersedes previous ones and brings the information up-to-date.



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